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U.S. DEPARTMENT OF AGRICULTURE

**THE INSECT PEST SURVEY
BULLETIN**

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Number 2

**BUREAU OF
ENTOMOLOGY AND PLANT QUARANTINE
UNITED STATES
DEPARTMENT OF AGRICULTURE
AND
THE STATE ENTOMOLOGICAL
AGENCIES COOPERATING**

THE MORE IMPORTANT RECORDS FOR MARCH

Grasshoppers were beginning to hatch in the Palo Verde Valley of California during the second week in March. Overwintering nymphs of those grasshoppers which survive in the immature stage were observed in east-central Missouri.

Mormon crickets began hatching in Nevada, Washington, and Oregon in March.

The usual reports of cutworm damage to truck crops were received from the Southern and Southwestern States.

Continued reports of low winter mortality of chinch bugs were received during March from Illinois, Missouri, and southwestern Oklahoma. Reports just reaching this office indicate a winter mortality of 50 percent or over in the more northeastern infested counties in Iowa, from 10 to 40 percent in the southern and western counties of Iowa, and about 40 percent in southeastern Nebraska. In Oklahoma bugs started leaving winter quarters during the last week in the month.

The brown wheat mite (Tetranychina tritici Ewing) has been reported as very abundant in wheatfields in southwestern Oklahoma and seriously damaging barley in addition to wheat.

San Jose scale was materially reduced by the cold weather in Georgia.

Adults of the plum curculio started leaving hibernation quarters in central Georgia on the 20th of March.

Losses occasioned by pear thrips, somewhat heavier than normal, are reported from Lake County in California. Emergence of the adults began late in February; however, on the whole, injury is below normal.

Following the severe January freeze in Florida new growth appeared during March on the citrus trees and a few green citrus aphids started to appear. The introduced Chinese ladybeetles, however, failed to reappear up to the time of our most recent report. It is feared that these introduced predators have been destroyed.

The vegetable weevil has been found for the first time in Duval County, Fla., this being the easternmost record in the State.

Cabbage aphids were unusually abundant from South Carolina to Louisiana.

No live sweetpotato weevils that had emerged from the sweetpotatoes in the field prior to the extremely cold weather in Louisiana have been found since. Numbers were apparently reduced severely by the cold weather.

The cotton flea hopper was observed hatching on March 11 in Louisiana.

Spring cankerworm adults appeared in the Middle Atlantic and East Central States in March. In part of this area the pest will undoubtedly be very numerous. In central Missouri there are indications of the most serious infestation that has occurred in years.

The first appearance of the American dog tick in Maryland was recorded on March 30.

The usual spring reports of termites swarming from buildings have come in from practically the entire southern half of the United States, from the District of Columbia to Texas.

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GENERAL FEEDERS

GRASSHOPPERS (Acrididae)

Missouri. L. Haseman (March 27): Reports of the presence of considerable numbers of nymphs of those grasshoppers which survive in the immature stage in east-central Missouri. No checkup made on the condition of the overwintered eggs of the destructive species.

Nevada. G. G. Schweis (March 27): Eggs seem to have overwintered well but no hatch has occurred.

Utah. G. F. Knowlton (March 21): Nymphs of the coral-legged grasshopper (Hippiscus corallipes Hald.), found on Promontory Point, averaged a little more than $\frac{1}{2}$ inch in body length, and were moderately abundant in places on the range.

C. J. Sorenson (March 13): Nymphs of H. corallipes observed on range grass in the vicinity of Lehi, Utah County.

Arizona. R. G. Richmond (March 14): Grasshoppers were hatching at Yuma on March 4, damaging cantaloup and melon seedlings.

California. S. Lockwood (March 23): On March 8 and 9 it was observed that Melanoplus mexicanus Sauss. was just starting to hatch in the Palo Verde Valley, near Blythe. Eggs more numerous than observed during the October egg survey. On March 11 and 12 a survey was made in Imperial County and less than 1 percent of the eggs had hatched on sandy soil, but no hatch had taken place on the heavier ground. Average count was 15 per 10 sweeps of a standard insect net. In both the Palo Verde Valley and Imperial County, eggs showed the embryo very far advanced. Eggs of the valley grasshopper (Oedalaconotus enigma Scudd.) were found to be much later in development on the western side of the San Joaquin Valley, near Cantua Creek. Eggs seem to be fully as common as during the fall survey. Observations on March 18 on the eastern side of Stanislaus County, near Le Grand, showed the eggs to be much fewer in numbers than during the fall survey. All eggs observed were those of the devastating grasshopper (M. devastator Scudd.). In Placer County on March 20 there was no indication of any species having hatched and fewer eggs were found than last fall. Some signs of predators having cleaned out some of the areas infested with eggs.

H. J. Ryan (March 19): The vagrant grasshopper (Schistocerca vaga Scudd.) was observed on coropsis at Burbank, Los Angeles County, on February 8. (Det. by V. E. Williams.)

R. G. Richmond (March 14): Grasshoppers began to appear in large numbers in southern California the first of March. Hatching occurred after a short rainy period followed by warm weather.

MORMON CRICKET (Anabrus simplex Hald.)

Nevada. G. G. Schweis (March 27): Observed hatching rapidly in large numbers in Elko, Eureka, Humboldt, Lander, and Pershing Counties, in the northern half of the State. Control measures being requested.

Washington. R. G. Richmond (March 16): It is reported that Mormon crickets are hatching in Franklin County.

Oregon. R. G. Richmond (March 14): Mormon crickets were reported as beginning to hatch in Malheur County on March 8. Control measures requested. (March 16): Hatching on March 13 on Warm Springs Indian Reservation, in Eagle Valley, and in the vicinity of Halfway, Baker County.

CUTWORMS (Noctuidae)

Louisiana. C. E. Smith and W. H. White (March 27): The black cutworm (Agrotis ypsilon Rott.) was observed damaging spring cabbage at Cutoff on March 13. On March 26 this pest was observed injuring strawberry in the vicinities of Hammond and Ponchatoula.

Oklahoma. F. A. Fenton (March 26): Reports of cutworms from Anadarko and Lawton, southwestern Oklahoma, and from Stillwater, north-central Oklahoma, as injuring wheat and barley. This species has been tentatively identified as the dark-sided cutworm (Euxoa messoria Harr.).

Texas. E. K. Fletcher (March 26): Reported as destroying onions and English peas in Llano County on March 6.

Utah. C. J. Sorenson (March 13): Larvae of the pale western cutworm (A. orthogonia Morr.) were found in the first, second, and third instars on dry-farm wheat at Lehi, Utah County. Hatching probably occurred around March 1.

Arizona. C. D. Lebert (March 15): Several species of cutworms have been observed feeding on ornamentals and garden crops in the Phoenix area, as follows: The beet armyworm (Laphygma exigua Hbn.) on lettuce and calendula; the granulated cutworm (Feltia annexa Treit.), the variegated cutworm (Peridroma margaritosa Haw.), and the yellow-striped armyworm (Prodenia ornithogalli Guen.) on flower buds. The last named was becoming abundant around lights the middle of March.

California. L. A. Burtch (March 9): Control measures are being used against cutworms attacking grapevines in Kern County.

WIREWORMS (Elateridae)

Washington. E. W. Jones (March 23): Emergence of overwintering adults of the Pacific coast wireworm (Limonius canus Lec.) from emergence cages at Walla Walla began on March 2. Daily flights of males noted, beginning on March 19, in the Walla Walla and Kennewick districts. The

sugar-beet wireworm (L. californicus Mann.) was found feeding on lettuce plants at Walla Walla on March 15.

EUROPEAN EARWIG (Forficula auricularia L.)

Washington. E. W. Jones (March 23): Overwintering adults are present above the soil surface at Walla Walla.

C E R E A L A N D F O R A G E - C R O P I N S E C T S

PLANT BUGS (Lygus spp.)

Utah. G. F. Knowlton (March 21): Adults of L. elisus Van D. and L. hesperus Knight were rather abundant upon range land at Promontory Point and south of Lampo, Box Elder County.

C. J. Sorenson (March 13): L. hesperus observed on range plants in the vicinity of Lehi, Utah County.

California. S. Lockwood (March 23): L. elisus, while present in alfalfa at Blythe, in the Palo Verde Valley, and at Westmoreland, in the Imperial Valley, is far less abundant than had been expected, there being only 5 to 6 specimens per 10 sweeps of an insect net.

WHEAT AND OTHER SMALL GRAINS

HESSIAN FLY (Phytophaga destructor Say)

Missouri. E. T. Jones (March 28): Dissection of puparia from wheat in test plots at Springfield on March 17 showed 86 percent of healthy larvae in puparia. Ten percent of the larvae were unhealthy or dead, and 4 percent of the puparia were empty. The light color of many puparia indicated that a considerable proportion of the flies may have overwintered as larvae.

Kansas. E. T. Jones (March 28): Collections from fields in Geary, Marion, Morris, and Riley Counties during the last week in February indicate that a considerable proportion of a generally light population had survived the winter as larvae. In one field near Stockdale, Riley County, 60 percent of the total forms examined ranged from first-stage to full-grown white larvae. All forms appeared to be healthy and in good condition. Field examinations in southeastern Kansas on March 17 indicated light spotted infestations, with larvae generally in good condition, although some dead larvae were found.

CHINCH BUG (Blissus leucopterus Say)

Illinois. W. P. Flint (March 26): More chinch bugs were hibernating on farms in the State during the winter than ever before, with the exception of the winter of 1933-34. Approximately 75 of the 102 counties in the State included in the infested area, which extends from the northern tier of counties southward to Randolph, Washington, Wayne, and Wabash Counties. Recent counts show that large numbers have come through the winter. Area of probable infestation extends roughly 1 tier of counties farther south and 2 tiers farther north than last year.

Missouri. L. Haseman (March 27): The heavy snow blanket has apparently helped materially in protecting chinch bugs from the severe cold. Recent surveys indicate that throughout the north-central, heavily infested section of the State, winter mortality is less than 25 percent, where snow coverage was present. Some readings as low as 10 percent, and in clearer spots as high as 35 percent. In central Missouri, mortality seems to be considerably higher, as high in some counts as 30 percent, even where there was a good deal of snow.

Oklahoma. R. G. Dahms (March): Winter mortality was 1.9 percent, based on the number of live and dead bugs recovered from 50 samples of Andropogon scoparius in southwestern Oklahoma, during the first 15 days of March. A few bugs migrated from winter quarters to small grains on March 21 and 23.

BROWN WHEAT MITE (Tetranychina tritici Ewing)

Oklahoma. R. G. Dahms (March): Very abundant in most wheatfields in southwestern Oklahoma.

F. A. Fenton (March 26): One field of barley in southwestern Oklahoma has been very seriously damaged by a mite, which has been tentatively identified as this species.

CORN

SEED-CORN MAGGOT (Hylemya cilicrura Rond.)

Texas. R. K. Fletcher (March 26): Seed corn in Brown County severely injured on March 16.

ALFALFA

ALFALFA WEEVIL (Hypera postica Gyll.)

Nevada. G. G. Schweis (March 27): Adults observed in a recent survey of some of the alfalfa fields in Douglas County.

California. A. E. Michelbacher (March 19): On March 13, alfalfa fields in the northwestern part of the San Joaquin Valley were surveyed. The number of larvae collected per 100 sweeps of an insect net in the different fields ranged from 0 to 3,500. Adult counts ranged from 0 to 53. Populations were small over most of the infested region and in most fields less than 100 larvae were collected per 100 sweeps. Only in a relatively small area south of Tracy was a large population found, the larval count ranging from 500 to 3,500. At present the alfalfa is

from one-third to a little more than one-half grown. Alfalfa fields adjacent to the San Francisco Bay surveyed on March 18, and larval counts ranged from 20 to 240. No danger of a build-up in the population in this region. Extremely scarce in the fields around Pleasanton on the same date. Based on rearing records of larvae collected on March 4 in the San Joaquin Valley, it was found that about 25 percent of the last-instar larvae were parasitized by Bathyplectes curculionis Thoms. In the San Francisco Bay region it was found that better than 85 percent of the larvae collected on March 5 had been parasitized by Bathyplectes. Population about Pleasanton too small to determine with accuracy the degree of parasitization; however, on March 18 the only 2 large larvae collected were both parasitized. Bathyplectes is apparently an important factor in holding the larval population in check in the region adjacent to San Francisco Bay and at Pleasanton.

CLOVER LEAF WEEVIL (Hypera punctata F.)

Georgia. T. L. Bissell (March 25): Grubs plentiful on alfalfa at Experiment, central Georgia.

CLOVER ROOT CURCULIO (Sitona hispidula F.)

Georgia. T. L. Bissell (March 25): Adults present on alfalfa at Experiment.

ALFALFA CATERPILLAR (Colias eurythome Bdv.)

Louisiana. C. O. Eddy (March 26): Active in alfalfa fields.

California. A. E. Michelbacher (March 19): Throughout the fields surveyed, in the northwestern part of the San Joaquin Valley, the region adjacent to San Francisco Bay, and at Pleasanton, larvae have been scarce. Numbers collected per 100 sweeps for the different fields have ranged from 0 to 3, seldom more than 1. Occasionally a larva is found parasitized by Apanteles flaviconchae Riley.

GREEN CLOVER WORM (Plathypena scabra F.)

Louisiana. C. O. Eddy (March 26): Active in alfalfa fields.

THREE-CORNERED ALFALFA HOPPER (Stictocophala festina Say)

Louisiana. C. O. Eddy (March 26): Adults are being observed on alfalfa.

PEA APHID (Macrosiphum pisi Kltb.)

Georgia. T. L. Bissell (March 25): Found in small numbers on alfalfa at Experiment, but none on Austrian peas.

California. S. Lockwood (March 23): Present in alfalfa in Imperial County in relatively small numbers for this time of the year.

FRUIT INSECTS

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

Georgia. O. I. Snapp (March 20): The unusually long cold period at Fort Valley, central Georgia, in January, during which a minimum temperature of 9° F. was recorded, killed a number of the mature and less than half-grown immature stages and all crawlers. As a result, the general infestation was reduced to a point below that of an average year.

Mississippi. C. Lyle (March 22): Specimens on walnut received from Wayne County on March 2. Reports of injury to fruit trees received from Winston County, from the Jackson and Grenada districts, and from the northeastern part of the State.

PEACH TWIG BORER (Anarsia lineatella Zell.)

California. S. F. Bailey (March 25): Emergence from hibernacula in almond-growing districts began on March 7 and on peach about 10 days to 2 weeks later. The early emerging larvae are now mature. Some of the small larvae were found feeding in the tiny nuts in Colusa County. Usually they do not attack the almonds until the nuts are full grown.

APPLE

CODLING MOTH (Carpocapsa pomonella L.)

New York. D. W. Hamilton (March 23): Winter mortality of larvae has been low. Only 6.25 percent in overwintering bands, examined on March 21, were dead. No extremely low temperatures have occurred. It was below zero on four occasions, and the minimum at Poughkeepsie for the winter was -6° F. Spring development is later than that of the last few years.

Missouri. L. Haseman (March 27): The severe winter has caused considerable mortality, some readings in northwestern Missouri running as high as 75 percent. Mortality materially smaller throughout central Missouri.

Missouri and Kansas. H. Baker (March 22): Low temperatures during much of the month of January, with a minimum of -27° F. at the St. Joseph, Mo., airport in a bottom, or low-land, location, killed many hibernating larvae. Mortality in northwestern Missouri and northeastern Kansas has been found to vary widely according to location, but an average of checks in several orchards indicates it to be from 35 to 40 percent in hill-land orchards and from 60 to 75 percent in bottom-land ones.

EASTERN TENT CATERPILLAR (Malacosoma americana F.)

Michigan. E. I. McDaniel (March 21): Eggs observed on March 18 at Detroit.

Oklahoma. F. A. Fenton (March 26): Very prevalent on wild plums and related wild shrubs in southeastern Oklahoma..

California. S. F. Bailey (March 25): In Sonoma County tent caterpillars (Malacosoma sp.) are now hatching out, in some instances being forced to feed on the green buds and blossoms, since the leaves have not appeared.

FRUIT TREE LEAF ROLLER (Cacoecia argyrospila Walk.)

Arizona. C.D. Lebert (March 15): Egg masses of one of the fruit tree leaf rollers, possibly this species, were found to be numerous on young peach trees in an orchard in the lower Verde area of Arizona on March 5. About 30 percent of the masses were hatched, and webbing was in evidence in the small branches. No foliage had appeared.

California. S. F. Bailey (March 25): Occasional larvae seen in pear orchards feeding in the buds in Solano County.

FLATHEADED APPLE TREE BORER (Chrysobothris femorata Oliv.)

Mississippi. C. Lyle (March 22): Injury to apple trees in Choctaw County reported on March 4.

Nebraska. M. H. Swenk (March 15): Complaint received from Gage County on March 4 of infestations on ash, hackberry, elm, and linden trees.

PEACH

PLUM CURCULIO (Conotrachelus nenuphar Hbst.)

Georgia. O. I. Snapp (March 20): Adults started to appear from hibernation at Fort Valley, central Georgia, today, the first individual of the season being taken from a peach tree by jarring. Adults do not appear from hibernation in numbers until the mean temperature has been above 60° F. for several successive days. Such a period of warm weather has not yet occurred this spring at Fort Valley. About three-fourths of the early peach blooms had opened when the first specimen was caught.

Texas. R. K. Fletcher (March 26): Request for control on peach in Shelby County on March 8.

PEACH BORER (Conopia exitiosa Say)

Mississippi. C. Lyle (March 22): Reports of injury to untreated peach trees in Lauderdale and Pike Counties. Some damage caused in the Jackson district.

PEAR

PEAR THRIPS (Taeniothrips inconsequens Uzel)

California. S. Lockwood (March 23): Somewhat heavier loss reported in Lake County than had been anticipated.

S. F. Bailey (March 25): Very irregular in its appearance this spring in northern California. In some of the more badly infested counties, such as Solano, Sonoma, and Napa, emergence has been very light. In other sections severe infestations in small areas have appeared. Emergence of adults began on February 24 and continued for a period of slightly over 4 weeks. Injury to pears much less than in previous years.

PEAR LEAF BLISTER MITE (Eriophyes pyri Pgst.)

California. S. Lockwood (March 23): Responsible for some rather heavy damage to the overwintering pear buds in the Sacramento Valley and contiguous mountain pear orchards. Particularly true in pear orchards where no control measures were applied, whereas well-treated orchards show no damage. Considerable damage where treatment was applied late in the fall or in the winter.

YOUNGBERRY

ROSE SCALE (Aulacaspis rosae Bouche)

Mississippi. O. Lyle (March 22): Specimens on youngberry plants received from Lauderdale County.

GRAPE

GRAPE LEAFHOPPER (Erythroneura comes Say)

Utah. G. F. Knowlton (March): Infestation reported to be less abundant in a small vineyard at Hooper than for several years. Found on grass near Virginia creepers at Logan on warm days.

GRAPE SCALE (Aspidiotus uvae Comst.)

Virginia. Mrs. J. Howard (March 22): Grapevine from Falmouth injured. (Det. by H. Morrison.)

PECAN

HICKORY SHUCK WORM (Laspeyresia caryana Fitch)

Florida. S. O. Hill (March 20): The first emergence of adults of the overwintering generation at Monticello, Jefferson County, was on March 20, as compared with first emergence on February 20, in 1939 and March 1 in 1938.

CITRUS

GREEN CITRUS APHID (Aphis spiraeicola Patch)

Florida. J. R. Watson (March 21): New growth appearing on trees defoliated by freezes in January, and a few green citrus aphids. None of the predacious Chinese ladybeetles (Leis dimidiata quinquespilota Hope) have been seen since the freeze, but native ladybeetles were scarce also, and it is still hoped that this valuable species has survived the freeze.

CITRUS THRIPS (Scirtothrips citri Moul.)

California. L. A. Burtch (March 9): Several growers are planning to use measures for the control of this pest in Kern County.

FIG

FIG SCALE (Lepidosaphes ficus Sign.)

California. C. K. Fisher (March 20): Eggs are just beginning to hatch at Fresno. Hatching was first observed at Fresno on April 23 in 1937, on April 18 in 1938, and on April 5 in 1939.

T R U C K - C R O P I N S E C T S

VEGETABLE WEEVIL (Listroderes obliquus Klug)

- Florida. J. R. Watson (March 21): Specimen sent in from Jacksonville. This is the first time this weevil has been found as far east as Duval County, Monticello, in Jefferson County, being the farthest east of our previous records.
- Mississippi. C. Lyle (March 22): Larvae received from Jones County on March 10. Turnips being seriously damaged.
- Louisiana. C. O. Eddy (March 26): Larvae reported in a number of gardens.

CUCUMBER BEETLES (Diabrotica spp.)

- South Carolina. J. G. Watts (March 20): Since March 10, a few adults of D. duodecimpunctata F. have been noted on the wing and on various vegetables and weeds at Blackville.
- Georgia. T. L. Bissell (March 25): One adult of D. duodecimpunctata found on alfalfa on March 19 at Experiment, central Georgia.

O. I. Snapp (March 18): Southern corn rootworm adults have begun to appear from hibernation at Fort Valley, central Georgia, a number having been jarred from peach trees today. These insects feed on the flowers and tender leaves of peach trees early in the spring.

- Louisiana. C. O. Eddy (March 26): Only one specimen of D. balteata Lec. taken after extensive search. This insect was extremely abundant last year.

ASPARAGUS BEETLE (Crioceris asparagi L.)

- South Carolina. J. G. Watts (March): Active in hibernation cages at Blackville since February 25.

THRIPS (Thysanoptera)

- Maryland. F. F. Smith (February 10): Three species, Thrips tabaci Lind., Hercinothrips femoralis Reut., and Thrips nigropilosus Uzel, have been abundant and very injurious to lettuce at Beltsville. The last-named species has also been found on chrysanthemum. (Det. by F. Andre.)
- South Carolina. J. G. Watts (March 21): Frankliniella tritici Fitch, F. fusca Hinds, and T. tabaci, which are usually active and occasionally abundant on different plants at Blackville at this time of year, are extremely scarce at present.

Florida. J. R. Watson (March 21): Still very scarce over most of the State, owing to the scarcity of blossoms during this unusually cold winter, but a complaint has come in of heavy damage to beans in the Homestead district, in southern Florida, presumably by the Florida flower thrips (F. tritici). Infestation probably accounted for by the fact that this region was not so hard hit by the cold as was most of the State; however, small numbers of thrips are appearing in the Gainesville and other sections.

POTATO AND TOMATO

COLORADO POTATO BEETLE (Leptinotarsa decemlineata Say)

Mississippi. F. A. Smith (March 22): Observed at Tunica, northwestern Mississippi, on March 12.

WESTERN POTATO FLEA BEETLE (Epitrix subcrinita Lec.)

Washington. E. W. Jones (March 23): A few overwintering adults taken in flight by rotary trap at Walla Walla on March 22. (Det. by M. C. Lane.)

A TENEBRIONID (Ulus elongatulus Csy.)

Texas. R. K. Fletcher (March 26): Found destroying 15 percent of freshly set tomato plants on March 21 in Lavaca County.

TOMATO WORM (Protoparce sexta Johan.)

California. H. J. Ryan (March 19): Observed on tomato at Burbank, Los Angeles County, on February 6.

MOLE CRICKETS (Gryllidae)

South Carolina. J. G. Watts (February 25): Very limited activity by these pests in a tomato seedbed at Blackville.

BEANS

BEAN LEAF ROLLER (Urbanus proteus L.)

Florida. J. R. Watson (March 21): This pest, which is usually rather common at this time of the year, has not been seen since the freeze late in January.

CABEAGE

DIAMONDBACK MOTH (Plutella maculipennis Curt.)

Florida. J. R. Watson (March 21): Sent in from Duval County, where it was infesting stock.

APHIDS (Aphididae)

South Carolina. J. G. Watts (March 14): About 10 percent of the cabbage plants at Blackville are infested with cabbage aphid. Both hymenopterous parasites and syrphid predators are active.

Mississippi. C. Lyle (March 22): Reports of injury to cabbage plants by plant lice, probably Brevicoryne brassicae L., received from the Jackson and Grenada districts and the northeastern part of the State. Only light damage caused.

Louisiana. C. E. Smith (March 27): The cabbage aphid (B. brassicae) has been unusually abundant at Baton Rouge on seeding stalks of cabbage, collards, mustard, and young spring cabbage throughout March.

SWEETPOTATO

SWEETPOTATO WEEVIL (Cylas formicarius F.)

Louisiana. K. L. Cockerham (February 23): Five examinations in field plots and 7 field examinations on heavily infested farms in the vicinity of Sunset, St. Landry Parish, southwestern Louisiana, and also examinations in longevity cages, indicate that all adults that had emerged from sweetpotatoes in the fields prior to the extreme cold weather from January 15 to February 1, were killed. A low temperature of 11° F. was recorded. Some live larvae, pupae, and adults have been found in sweetpotatoes taken from the surface of the ground on several farms and dissected, but apparently the percentage of living specimens is less than that in preceding years, when the cold was not so severe.

COFFEE-BEAN WEEVIL (Araecerus fasciculatus Deg.)

Alabama. J. M. Robinson (March 23): Found attacking sweetpotatoes at Aliceville on March 2.

STRAWBERRY

RED SPIDER (Tetranychus sp.)

Louisiana. C. O. Eddy (March 26): Numerous enough in some of the strawberry fields in eastern Louisiana to necessitate control measures.

TOBACCO

GREEN JUNE BEETLE (Cotinis nitida L.)

Florida. F. S. Chamberlin (March 18): Specimens of larvae taken in tobacco plant bed at Quincy on March 15. (Det. by W. H. Anderson.)

TOBACCO FLEA BEETLE (Epitrix parvula F.)

Virginia. C. B. Dominick (March 23): Very little warm weather in the Chatham district. None captured on flight screens to date.

MOLE CRICKETS (Scapteriscus sp.)

Florida. F. S. Chamberlin (March 27): Although mole crickets are sufficiently numerous to require control measures on tobacco plant beds in Gadsden County, they appear to be somewhat less abundant than normal.

C O T T O N I N S E C T S

BOLL WEEVIL (Anthonomus grandis Boh.)

Florida. C. S. Rude (March 23): Examinations of hibernation cages in Alachua County early in March showed no indications of activity. Cages located at McIntosh, Marion County, and at Fruitland Park, Lake County, were examined on March 21. At McIntosh 17 active weevils were observed in the 3 cages in the open and 11 in the 3 cages at the edge of the woods, representing 0.8 and 0.52 percent, respectively, of the weevils placed in these cages last fall. At Fruitland Park only 1 active weevil was observed in the 2 cages, representing 0.07 percent of the weevils installed last fall.

Mississippi. E. W. Dunnam (March 27): One live specimen found on March 15 at Stoneville, following a minimum winter temperature of 0° F. January 27.

Louisiana. R. C. Gaines and assistants (March 23): No weevils taken on field flight screens in Madison Parish for the week ended March 22 in 1938 and 1940, but 3 were taken during the same week of 1939. In examinations of Spanish moss no live weevils were found, but 7 live weevils were found in trash, as compared with 11 found in 1939.

PINK BOLLWORM (Pectinophora gossypiella Saund.)

Texas. R. E. McDonald (February 26): Inspection of some of the open cotton on stalks in one field resulted in the finding of one specimen in a seed on February 19 in a field $4\frac{1}{2}$ miles north of Mission, in Hidalgo County. (Det. by C. Heinrich.)

A. J. Chapman (March 2): Examinations at the end of February of 700 bolls in Presidio County showed that mortality in bolls on soil surface was 2.81 percent and in bolls on plants 11.99 percent. (March 9): Soil examinations during the week in Presidio County, to determine carry-over in the soil, showed averages in 3 plots of 0.65, 1.05, and 4.6 larvae per square yard.

COTTON FLEA HOPPER (Psallus seriatus Reut.)

Louisiana. I. J. Becnel (March 26): Nymphs have been emerging from eggs deposited late last fall in host plants. Plants were placed in emergence cages and records on emergence are being made. First emergence was on March 11.

FOREST AND SHADE - TREE INSECTS

GYPSY MOTH (Porthetria dispar L.)

Vermont. A. F. Burgess (February 20): Up to February 10, eight infestations had been located in Middlebury, Addison County.
(February 27): Preliminary examinations indicate a considerable reduction in the intensity of infestation in a large part of the area in the northern half of the State, between the Connecticut River and the barrier zone. In the towns of Colebrook and Harwinton, bordering the barrier zone more scattered infestations found than ever before, most of them consisting of a single egg cluster, but an area in Harwinton has been discovered where the infestation is heavier.

J. N. Summers (March 13): Two additional infestations found in Bristol Township, Addison County, making a total of five in that town. Control work done at an infestation in Brandon, Rutland County.

Massachusetts. J. N. Summers (March 13): Scattered infestation found in practically all places where scouting has been done in Shelburne and Ashfield, but conditions in Shelburne appear to be not so severe as last year, and the infestation decreases west of Ashfield.

Connecticut. A. F. Burgess (February 20): At Southbury, New Haven County, another infested spot has been located about $\frac{1}{4}$ mile from the original infestation. (February 27): Infestation in the Granby area not so severe as last year, but considerable spread of scattered infestation observed toward the west. (March 6): Some increase in the infestation in the West Peak area, near Meriden. Part of this infestation extends into Berlin and Southington, the heaviest part being in the latter town. In the southern part of the State, infestations have been greatly reduced as the result of control measures.

Pennsylvania. A. F. Burgess (March 6): During the week of February 19, additional infestations were located in the townships of Scranton and Clifton, both of which are in Lackawanna County.

SPRING CANKERWORM (Paleacrita vernata Peck)

Pennsylvania. A. B. Champlain (March 24): Adult, wingless females, very plentiful in wooded areas in Dauphin County. Many seen on tree trunks and twigs.

Ohio. T. H. Parks (March 25): A few wingless females seen on tree trunks between March 10 and 17. Cold weather has greatly retarded emergence.

Illinois. W. P. Flint (March 26): A few males observed flying at Urbana on the night of March 17.

Missouri. L. Haseman (March 27): Indications point to the severest infestation that central Missouri has experienced in years. Female moths began emerging the last 2 days of February. It is estimated that from 7,000 to 8,000 female moths have been taken on a single tree. They are still found in great numbers.

BAGWORM (Thyridopteryx ephemeraeformis Haw.)

Ohio. E. W. Mendenhall (March 20): Cocoons very abundant in Marietta and vicinity. Examination revealed that they have overwintered successfully.

WHITE-MARKED TUSSOCK MOTH (Hemerocampa leucostigma A. & S.)

Ohio. E. W. Mendenhall (March 20): Cocoons abundant at Marietta.

OAK

A SCALE INSECT (Kermes sp.)

Mississippi. J. Milton (March 22): Found on a number of oak trees in Hinds County. Damage noticeable but not serious.

PINE

PALES WEEVIL (Hylobius pales Hbst.)

Florida. J. M. Robinson (March 23): Reported as attacking cedar and pines at Crestview on March 18.

NANTUCKET PINE SHOOT MOTH (Rhyacionia frustrana Comst.)

Virginia. L. A. Hetrick (March 21): First emergence of adults in the field on Pinus taeda on March 19 in Isle of Wight County, near Franklin.

A PINE SAWFLY (Neodiprion americanum Leach)

Virginia. L. A. Hetrick (March 21): Overwintering eggs found in the needles of Pinus taeda at scattered points in King and Queen County and in Mathews County. Larvae of this species caused defoliation of pines in these areas in May 1939. (Det. by G. A. Sandhouse.)

PINE NEEDLE SCALE (Chionaspis pinifoliae Fitch)

Utah. G. F. Knowlton (March 22): Numerous on leaves of Austrian pine and white spruce at Logan.

A SCALE (Matsucoccus acalyptus Herbert)

Arizona. B. Eastman (March 11): Found on pinon pine on the Navajo Indian Reservation. (Det. by H. Morrison.)

TULIPTREE

TULIPTREE SCALE (Toumeyella liriodendri Gmel.)

Pennsylvania. E. P. Felt (March 22): The scale-eating caterpillar Laetilia coccidivora Comst. was abundant on tuliptrees infested by this scale, as shown by material collected recently in the Philadelphia area.

WILLOW

POPLAR AND WILLOW BORER (Sternochetus lapathi L.)

Michigan. E. I. McDaniel (March 21): Found on March 18 at Grand Rapids.

A PSYLLID (Psylla parallela Crawford.)

Oregon. R. L. Post (March 14): Series of more than 40 specimens collected from pussy willow at Salem on February 19. This is apparently the first time this species has been collected in Oregon. (Det. by L. D. Tuthill.)

I N S E C T S A F F E C T I N G G R E E N H O U S E

A N D O R N A M E N T A L P L A N T S

COTTONY-CUSHION SCALE (Icerya purchasi Mask.)

Arizona. C. D. Lebert (March 15): Since February this scale has been building up on ornamentals in the Phoenix area. Several heavy infestations were observed on plantings of pittosporum, but no damage has been observed. No parasites present.

COTTONY MAPLE SCALE (Pulvinaria vitis L.)

Idaho. F. H. Shirck. (March 9): Branches of Spiraea vanhouttei received from Parma infested with what is possibly this species.

A PYRRHOCORID (Euryophthalmus succinctus L.)

Arizona. C. D. Lebert (February 26): This bordered plant bug was observed to be numerous on the flowering buds of the native cacti Coryphantha spp. on sunny hillsides in the Dragoon Mountains, Cochise County, southeastern Arizona. Adults and nymphs observed. None found in nearby deciduous-fruit orchards.

CITRUS MEALYBUG (Pseudococcus citri Risso)

Delaware. M. D. Leonard (March 23): The parasite which was cited as attacking Coleus at Wilmington on page 24 of the Insect Pest Survey Bulletin, March 1, 1940, has been determined as Leptomastidea abnormis Gir. (Det. by A.B. Gahan.)

Nebraska. M. H. Swenk (March 15): Reported as infesting house plants in Lancaster County on February 26.

A PSYLLID (Paurocephala ilicis Ashm.)

Texas. R. K. Fletcher (March 11): Leaf galls from evergreen yaupon (Ilex vomitoria) containing psyllid nymphs received on March 8. (Det. by P. W. Oman.)

APHIDS (Aphidae)

Delaware. M. D. Leonard (March 15): Continued heavy infestations of potted nasturtiums by Myzus persicae Sulz., along with Aphis rumicis L., which they were gradually displacing, have taken place in a greenhouse at Wilmington. Also found on cabbage. For the last 2 weeks Rhopalosiphum rufomaculatum Wilson has been building up on a number of young, potted chrysanthemum plants in this greenhouse, until a very fair infestation is present with a good scattering of alates.

ARBORVITAE

AN APHID (Dilachnus thujaefilina Del G.)

Arizona. C. D. Lebert (March 10): Observed in the Phoenix area on arborvitae.

CAMELLIA

CAMELLIA SCALE (Lepidosaphes camelliae Hoke)

Mississippi. C. Lyle (March 22): Specimens on Camellia japonica sent in from Lowndes County on March 4.

CAPE-JASMINE

CITRUS WHITEFLY (Dialeurodes citri Ashm.)

Mississippi. J. Milton (March 22): Some damage caused to Cape-jasmine in Hinds and Scott Counties.

CHRYSANTHEMUM

CHRYSANTHEMUM APHID (Macrosiphoniella sanborni Gill.)

Delaware. M. D. Leonard (March 15): Many young potted chrysanthemum plants in a greenhouse at Wilmington, which seemed only slightly infested in February, now have a considerable population of this aphid, as well as of R. rufomaculatum.

Arizona. C. D. Lebert (March 10): Numerous on chrysanthemum in the Phoenix area,

DOGWOOD

DOGWOOD CLUB GALL (Mycodiplosis alternata Felt)

South Carolina. E. P. Felt (March 22): Reported as common and causing appreciable injury in the Clemson section.

Georgia. M. Murphey, Jr. (March 12): Galls from dogwood, and larvae found in galls. (Det. by C. T. Greene.)

EASTER LILY

BULB MITE (Rhizoglyphus hyacinthi Bdv.)

Michigan. E. I. McDaniel (March 21): Found in Easter lily at Royal Oak and Jackson. Plants retarded in growth and fail to produce more than two or three flowers. In many instances the stem has been hollowed out and is a mass of mites.

EUONYMUS

EUONYMUS SCALE (Chionaspis euonymi Comst.)

Mississippi. C. Lyle (March 22): Specimens on euonymus received from Lee County. Damage reported from Hinds County and the northeastern part of the State.

FERN

FERN SCALE (Pinnaspis aspidistrae Sign.)

Michigan. E. I. McDaniel (March 14): Found on Boston fern in a house at Bad Axe.

GREENHOUSE WHITEFLY (Trialeurodes vaporariorum Westw.)

Utah. G. F. Knowlton (March 22): Found damaging ferns recently purchased.

GLADIOLUS

CORN EAR WORM (Heliothis armigera Hbn.)

Florida. J. R. Watson (March 21): Some trouble reported from Lee County of the corn ear worm mining the stalks of gladiolus.

GLADIOLUS THRIPS (Taeniothrips simplex Morison)

Florida. J. R. Watson (March 21): Rather prevalent in Lee County.

IVY

GREENHOUSE SCALE (Aspidiotus nerii Bouche)

Michigan. E. I. McDaniel (March 21): Found on English ivy in a house at Plainwell on March 14.

AN APHID (Aphis sp.)

Mississippi. C. Lyle (March 22): Specimens received from Hinds County on March 20, with statement that they were feeding on ivy. It is believed that this aphid is different from any recorded species for this host plant, and it has not been definitely identified.

OLEANDER

OLEANDER SCALE (Aspidiotus hederæ Vallot)

Mississippi. J. Milton (March 22): Light infestation reported on oleander plants kept in dwellings during the winter in the Jackson district.

RHODODENDRON

AZALEA SCALE (Eriococcus azaleæ Comst.)

Pennsylvania. E. P. Felt (March 22): Locally abundant on rhododendrons in the Philadelphia area.

A RHODODENDRON MIDGE (Alardomyia rhododendri Felt)

Pennsylvania. E. P. Felt (March 22): Damage reported from Bryn Mawr. This insect caused considerable damage last year.

ROSE

ROSE APHID (Macrosiphum rosæ L.)

Arizona. C. D. Lebert (March 10): Observed to be numerous on the new growth and young buds of rosebushes in the Phoenix area.

INSECTS ATTACKING MAN AND
DOMESTIC ANIMALS

MAN

MOSQUITOES (*Culicinae*)

Louisiana. C. O. Eddy (March 26): Observed to be abundant around University Lake at University.

Utah. G. F. Knowlton (March 22): A few mosquitoes, *Aedes* sp., have been attacking man at Hooper and Logan the last few days.

EYE GNATS (*Hippelates* spp.)

California. E. W. Jayne (February): Very few gnats out, owing to cool weather, rain, and wind, and a poor catch was made during the month in the Coachella Valley.

AMERICAN DOG TICK (*Dermacentor variabilis* Say)

Maryland. F. C. Bishopp (April 1): The first appearance of this tick this season is recorded with receipt of an adult male from Laurel on March 30. It was found crawling on a man's neck. (Det. by Helen L. Trembley.)

TROPICAL RAT MITE (*Liponyssus bacoti* Hirst)

Alabama. J. M. Robinson (March 19): Reported as attacking human beings at Auburn and Poanoke.

Texas. E. W. Leake (March 21): Reports of infestations and inquiries as to control received from two houses in Dallas. Houses were known to be infested by one or more rats, and the mites were annoying to the occupants of the premises.

BOXELDER BUG (*Leptocoris trivittatus* Say)

Pennsylvania. T. L. Guyton (March 25): Very numerous about and in a house at Elizabethtown.

District of Columbia. F. C. Bishopp (March 28): Reported during the last few days by a few residents in Washington and nearby Virginia. Found around the foundations of houses for the most part, only a few entering living quarters.

Virginia. S. B. Fenne (March 22): Found entering houses in Greensville County.

Indiana. J. J. Davis (March 25): Many reports received from throughout the State that this insect is becoming active and annoying in homes.

Michigan. E. I. McDaniel (March 21): Reported in houses at Waterford on March 14, and at Detroit.

Nebraska. M. H. Swenk (March 15): Many complaints of annoyance in and around houses received from Douglas, Saunders, Lancaster, Thayer, and Garden Counties.

Montana. H. B. Hills (March 18): Pest in buildings at Miles City.

Utah. G. F. Knowlton (March 21): Reported as extremely abundant and annoying in many buildings at Logan, Ogden, and Salt Lake City.

Washington. E. W. Jones (March 23): Very abundant this month, and becoming a house pest in Walla Walla and vicinity.

CATTLE

COMMON CATTLE GRUB (Hypoderma lineatum DeVill.)

Texas. C. L. Smith and W. G. Bruce (March 21): Activity by adults, attacking cattle, observed on March 11 and today in the vicinity of Dallas.

HORN FLY (Haematobia irritans L.)

Texas. W. G. Bruce (March 21): One horn fly emerged from an overwintering cage at Dallas on March 1. This was the first one observed in 1940. First observance of horn flies on cattle was on March 12, when about 19 flies were found on 2 cows in the laboratory pasture, 1 pair of flies mating. On the same date about 24 were found in the cattle fly trap to which the cattle had access. First oviposition noted in the laboratory pasture on March 14. Infestations on March 18 averaged 10 per head on 5 head of cattle on the laboratory premises and 3 per head on 40 head of cattle located 6 miles southeast of the laboratory.

STABLEFLY (Stomoxys calcitrans L.)

Florida. S. W. Simmons (March 23): A few adults were seen in nature on March 10 at Panama City, after having been absent since January 19.

Texas. W. G. Bruce (March 21): Reported as attacking livestock in the vicinity of Dallas since about the middle of February. They were neither numerous nor troublesome.

POULTRY

DEPLUMING MITE (Cnemidocoptes gallinae Baill.)

Nebraska. M. H. Swenk (March 2): Reported on chickens in Sheridan County.

SHEEP

NOSE BOTFLY (Gasterophilus haemorrhoidalis L.)

Utah. G. F. Knowlton and R. E. Nye (March 4): Reported that a valuable sheep at Logan was so badly infested that it had to be killed.

HOUSEHOLD AND STORED-PRODUCTS INSECTS

TERMITES (Isoptera)

District of Columbia. R. A. St. George (March 22): Swarms of Reticulitermes flavipes Kollar are occurring in buildings in Washington and vicinity at frequent intervals. Large numbers observed in heated basements during the last week.

Virginia. S. B. Fenno (March 22): First report for 1940 of swarming of subterranean termites in Augusta County on March 11. Considerable damage to house timbers.

North Carolina. B. H. Wilford (March 5): The first flight of R. flavipes observed this year occurred on March 4 in the basement of a residence in Asheville.

Alabama. J. M. Robinson (March 23): Sufficiently active at Auburn to require control measures.

Mississippi. C. Lyle (March 22): Reports of infestations received from Clarke, Copiah, Forrest, Hinds, Oktibbeha, and Yazoo Counties. Report received of serious damage to a school building in Scott County.

Indiana. J. J. Davis (March 25): Swarming reported from many localities in the State.

Michigan. E. I. McDaniel (March 21): Found coming out inside a house at Newaygo on March 14. First record for the year.

Missouri. L. Haseman (March 27): In central Missouri early swarming has been reported by a number of home owners, despite the fact that winter still prevails here.

Nebraska. M. H. Swenk (March 15): Specimens of R. flavipes sent in from Webster County on March 4, with the report that they had been taken from the ground a short distance south of a house.

Texas. R. K. Fletcher (March 26): House found badly infested on March 13 in Waller County.

Montana. H. B. Mills (March 18): Reported that P. tibialis Banks is eating only oak, not fir, flooring in a house at Havre, Hill County, north-central Montana. Adult winged forms sent in for examination. First record from this far north in Montana.

California. H. J. Ryan (March 19): Damp-wood termite (Termopsis angusticollis Hagen) observed at Glendale, Los Angeles County, on February 29, while Kaloterms minor Hagen was found attacking wood at Los Angeles on February 10. (Det. by V. E. Williams.)

ANTS (Formicidae)

Mississippi. C. Lyle (March 22): Specimens of the fire ant (Solenopsis xyloni McCook) received from Marshall County, and reports of annoyance from Simpson County. The Argentine ant (Iridomyrmex humilis Mayr) has been reported as causing annoyance in houses in parts of Winston and Forrest Counties. Control campaigns in progress, or just completed, in several localities.

Missouri. A. C. Burrill (March 22): Prenolepis imparis Say observed at Elmerine, Jefferson County, on March 19, the first ants seen above ground this spring. Usually ants are present in January or February.

Nebraska. M. H. Swenk (March 15): Numerous complaints of the basement ant (Lasius interjectus Mayr), as infesting basements of buildings, received from residents in Lancaster County during the period February 20 to March 15.

COCKROACHES (Blattidae)

Alabama. J. M. Robinson (March 23): The brown-banded cockroach (Supella supellectilium Serv.) was found at Auburn on March 7.

Mississippi. C. Lyle (March 22): Specimens of the German cockroach (Blattella germanica L.) received from Jackson County on March 14. Reports of infestations received from Hinds and Tate Counties.

Nebraska. M. H. Swenk (March 15): The oriental cockroach (Blatta orientalis L.) was reported as infesting a house in Gage County on March 4.

Montana. H. B. Mills (March): B. orientalis was found infesting a building at Helena.

POWDER-POST BEETLES (Lyctus spp.)

Alabama. J. M. Robinson (March 23): Reported as damaging wood at Eufaula on March 19.

Indiana. J. J. Davis (March 25): Reported from many localities and a serious problem throughout the State.

Nebraska. M. H. Swenk (March 15): L. planicollis Lec. reported as damaging oak floors in a house in Saline County on March 9.

CARPET BEETLES (Dermestidae)

Michigan. E. I. McDaniel (March 21): Adults collected on a basement window at Dearborn on March 19. The black carpet beetle (Attagenus piceus Oliv.) was found at Lansing on March 14.

AN ANOBIID (Xyletinus peltatus Harr.)

Mississippi. C. Lyle (March 22): Injury to foundation timbers of buildings was reported from Adams and Leflore Counties; probably caused by this species.

WEEVILS (Curculionidae)

Alabama. J. M. Robinson (March 23): The rice weevil (Sitophilus oryza L.) has been abundant at Auburn.

Mississippi. C. Lyle (March 22): A live weevil belonging to the genus Ceratopus was taken from a bunch of bananas in Jefferson Davis County and sent in on February 9. (Det. by L. L. Buchanan.)

Montana. H. B. Mills (March 21): About 25 bushels of wheat in a bin at Melstone, Musselshell County, were almost completely infested with the granary weevil, S. granarius L.

TISSUE PAPER BUG (Thylognathus contractus Motsch.)

Massachusetts. A. I. Bourne (March 9): A wingless female was discovered a few days ago at Amherst. This is, the reporter believes, the first time this species has been found here.

ANGOUNOIS GRAIN MOTH (Sitotroga cerealella Oliv.)

Alabama. J. M. Robinson (March 23): Abundant at Auburn.

Indiana. J. J. Davis (March 25): Unusually abundant last fall in the southern half of Indiana, owing apparently to mild weather and the large carry-over of grain. However, the extended, severe cold of January has apparently been responsible for a high mortality, and all material examined from outdoor cribs has shown 100-percent mortality.

A BLUEBOTTLE FLY (Calliphora erythrocephala Meig.)

Georgia. T. L. Bissell (March 25): Common at Experiment, central Georgia, since March 19.

CLUSTER FLY (Pollenia rudis F.)

Washington. M. H. Hatch (March 20): Found infesting a house in Seattle. (Det. by T. Kincaid.)

CORRECTION:

Georgia. T. L. Bissell (March 25): On pages 1, 3, 13, 14, and 18 of the Insect Pest Survey Bulletin for March 1, 1940, it is stated that the minimum temperatures for January and February 1940, at Experiment, central Georgia, were -15.6° and -4.4° F., respectively. Those figures represent the departures from normal, or average. The minimum temperatures for January and February were 4° and 18° , respectively.